

PATENT CLAIMS

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1. Apparatus (1;1a;1b) for the loading and unloading of substrates and including a conveying device (3;3a;3b) for the linear transport of the substrates and at least one rotatable handling device (4, 5; 4a) for the transport of the substrates between the conveying device (3; 3a;3b) and at least one processing station (6A to D, 7A to D; 80A to H), characterized in that the conveying device (3; 3a; 3b) is disposed between at least two processing stations (6A to D, 7A to D; 80A to H) and the at least one handling device (4, 5; 4a) is disposed above the conveying device (3; 3a; 3b).
2. Apparatus according to claim 1, characterized in that the point of rotation (40, 65; 40a) of the handling device (4, 5; 4a) is disposed on a central axis (20; 20b; 20a) of the conveying device (3; 3a; 3b).
3. Apparatus according to claim 1 or 2, characterized in that the handling device (4, 5; 4a) is provided with receivers (42 to 47; 400a to 411a) disposed on a circumferential circle (41,66; 41a) for the substrates.
4. Apparatus according to claim 3, characterized in that the receivers (42 to 47; 400a to 411a) are uniformly spaced upon the circumferential circle (41, 66; 41a).

5. Apparatus according to one of the claims 3 or 4, characterized in that the receivers (42 to 47; 400a to 411a) are disposed on radial arms (48 to 53; 420 to 431) of the handling device (4, 5; 4a).

6. Apparatus according to one of the preceding claims, characterized in that the conveying device (3; 3a; 3b) is provided with a conveyor belt (13; 13a; 13b).

7. Apparatus according to claim 6, characterized in that the conveyor belt (13; 13a; 13b) extends between a loading station and an unloading station.

8. Apparatus according to claim 6 or 7, characterized in that the conveyor belt (13; 13a; 13b) is provided with carriers (21 to 28; 21a to 28a) for the substrates.

9. Apparatus according to claim 8, characterized in that the carriers (21 to 28; 21a to 28a) are uniformly spaced apart in the direction of movement of the conveyor belt (13; 13a; 13b).

10. Apparatus according to claim 8 or 9, characterized in that the carriers (21 to 28) are disposed on the central axis (20; 20a; 20b) of the conveyor belt (13; 13b).

11. Apparatus according to claim 8 or 9, characterized in that respectively at least two carriers (21a to 28b) are symmetrically disposed relative to the central axis (20a) of the conveyor belt (13a).

12. Apparatus according to one of the preceding claims, characterized in that at least two carriers (21 to 28; 21a to 28a) are disposed upon the circumferential circle (41, 66; 41a) for the loading and unloading of the substrates.

5 13. Apparatus according to claim 3, characterized in that central receiving points (60A to D; 81A to H) of the processing stations (6A to D; 80A to H) are disposed upon the circumferential circle (41; 41a).

10 14. Apparatus according to claim 12 or 13, characterized in that the processing stations (6A to D, 7A to D; 80A to H) are disposed in pairs diametrically opposite one another upon the circumferential circle (41, 66, 41a).

15 15. Apparatus according to claim 14, characterized in that the processing stations (6A to D, 7A to D; 80A to H) are of the same type within the pairs.

16. Apparatus according to one of the preceding claims, characterized in that processing stations (80A to H) that are disposed adjacent to one another upon the circumferential circle (41a) are driven with the same drive means.

20 17. Apparatus according to one of the claims 3 to 16, characterized in that the number of the receivers (42 to 47; 400a to 411a) of the handling device (4; 4a) corresponds to the number of the carriers (22, 24; 22a, 23a, 26a, 27a) disposed upon the

circumferential circle (41; 41a) and of the processing stations(6a to D; 80A to H).

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18. Apparatus according to claim 17, characterized in that during the loading and unloading all of the receivers (42 to 47; 400a to 411a) are disposed either over the carriers (22, 24, 25, 27; 22a, 23a, 26a, 27a) on the conveying device (3; 3a; 3b) or over the central receiving points of the processing stations (6A to D, 7A to D; 80A to H).
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19. Apparatus according to one of the preceding claims, characterized by a control device for the simultaneous opening and closing of the receivers (42 to 47; 400a to 411a).